

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-000172**Date Inspected:** 15-May-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 800**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Huang Wei**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** N/A**Summary of Items Observed:**

The CALTRANS Quality Assurance (QA) Inspector, Alfredo Acuna was present for the welding qualification testing pertinent for the welding qualification record (PQR) HP200784 scheduled for this project. The QA inspector before the welding started verified the welding consumables to be used on the PQR HP200784. The QA observed that the welding consumables appeared to be in general compliance with the contract documents.

ZPMC, welder Han Chang Hou was observed by the QA Inspector performing welding operations following the preliminary welding procedure specification PWPS-B-T-2221-U-1 for the PQR identified as HP200784. Base metal was designated as A-709M-345 T2 (Heat # 710126N) and appeared to meet the fracture critical requirements. The root opening of the joint was approximately 16 mm. ZPMC followed AWS 5.13 Production procedure WPS using submerged arc welding (SAW) process in the flat (1G) position with the 4.8 mm diameter JW-3/ EM12K electrode. The QA Inspector randomly verified amperages, voltages, travel speeds, preheat and heat interpass temperatures. The QA inspector recorded welding parameters for a total of 16 passes. The QA inspector observed that the welding parameters taken by ZPMC QA inspectors Huang Wei and Gu Fun Min and American Bridge Flour Enterprises (ABF) representative Song Wemin appeared to be accurate and in accordance with the contract documents.

Note: The welding of the PQR test was performed at the SAW Gantry machine.

The QA inspector performed final visual examination to the test coupon after completion of the PQR HP200784. The QA inspector observed that the welds appeared to be in general compliance with the contract documents. The QA inspector assigned a lot # B71-027-07 on this date. The digital photograph below shows the PQR test coupon and the Gantry SAW machine (Lincoln) settings.

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Summary of Conversations:

Note: The QA inspectors Mike Hasler and Alfredo Acuna were presented by ZPMC QA representative Huang Wei with the preliminary PWPS-B-T-2221-U-1. The QA inspector brought to the attention of Caltrans Task Leader Dave McClary that the joint configuration on the PWPS for the PQR HP200784 had a root opening of 6 mm in lieu of 16 mm as per D1.5-02. After Mr. McClary conversation with ABF representatives, ZPMC corrected the root opening recorded on the PWPS-B-T-2221-U-1.

Mr. McClary and the QA inspector observed that the SAW electrodes JW-3 were not identified after ZPMC removed the wire spool from the electrode manufacturer box. Mr. McClary had a conversation with ZPMC/ABF representatives Mr. Huang and Mr. Song. Mr. McClary relayed to ZPMC that welding consumable used needed to be identified and traceable. ZPMC agreed. ZPMC labeled the electrode spool JW-3 used on the PQR HP200784.

The digital photograph below show the SAW spool JW-3 electrode without identification and ZPMC welding the PQR HP200784 on the Gantry welding machine.



Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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Inspected By: Acuna,Alfredo

Quality Assurance Inspector

Reviewed By: McClary,David

QA Reviewer